UNIX - NETWORK COMMUNICATION UTILITIES

When you work in a distributed envrionment then you need to communicate with remote users and you also need to access remote Unix machines.

There are several Unix utilities which are especially useful for users computing in a networked, distributed environment. This tutorial lists few of them:

The ping Utility:

The ping command sends an echo request to a host available on the network. Using this command you can check if your remote host is responding well or not.

The ping command is useful for the following:

- Tracking and isolating hardware and software problems.

- Determining the status of the network and various foreign hosts.

- Testing, measuring, and managing networks.

Syntax:

Following is the simple syntax to use **ping** command:

```
$ping hostname or ip-address
```

Above command would start printing a response after every second. To come out of the command you can terminate it by pressing CNTRL + C keys.

Example:

Following is the example to check the availability of a host available on the network:

```
$ping google.com
PING google.com (74.125.67.100) 56(84) bytes of data.
64 bytes from 74.125.67.100: icmp_seq=1 ttl=54 time=39.4 ms
64 bytes from 74.125.67.100: icmp_seq=2 ttl=54 time=39.9 ms
64 bytes from 74.125.67.100: icmp_seq=3 ttl=54 time=39.3 ms
64 bytes from 74.125.67.100: icmp_seq=4 ttl=54 time=39.1 ms
64 bytes from 74.125.67.100: icmp_seq=5 ttl=54 time=38.8 ms
--- google.com ping statistics ---
22 packets transmitted, 22 received, 0% packet loss, time 21017ms
rtt min/avg/max/mdev = 38.867/39.334/39.900/0.396 ms
$
```

If a host does not exist then it would behave something like this:

```
$ping giiiiigle.com
ping: unknown host giiiiigle.com
$
```

The ftp Utility:

Here ftp stands for **F**ile **T**ransfer **P**rotocol. This utility helps you to upload and download your file from one computer to another computer.

The ftp utility has its own set of UNIX like commands which allow you to perform tasks such as:

- Connect and login to a remote host.

- Navigate directories.

- List directory contents

- Put and get files

- Transfer files as ascii, ebcdic or binary

Syntax:

Following is the simple syntax to use **ping** command:

```
$ftp hostname or ip-address
```

Above command would prompt you for login ID and password. Once you are authenticated, you would have access on the home directory of the login account and you would be able to perform various commands.

Few of the useful commands are listed below:

Command	Description
put filename	Upload filename from local machine to remote machine.
get filename	Download filename from remote machine to local machine.
mput file list	Upload more than one files from local machine to remove machine.
mget file list	Download more than one files from remote machine to local machine.
prompt off	Turns prompt off, by default you would be prompted to upload or download movies using mput or mget commands.
prompt on	Turns prompt on.
dir	List all the files available in the current directory of remote machine.
cd dirname	Change directory to dirname on remote machine.
lcd dirname	Change directory to dirname on local machine.
quit	Logout from the current login.

It should be noted that all the files would be downloaded or uploaded to or from current directories. If you want to upload your files in a particular directory then first you change to that directory and then upload required files.

Example:

Following is the example to show few commands:

```
$ftp amrood.com
Connected to amrood.com.
220 amrood.com FTP server (Ver 4.9 Thu Sep 2 20:35:07 CDT 2009)
```

```
Name (amrood.com:amrood): amrood
331 Password required for amrood.
Password:
230 User amrood logged in.
ftp> dir
200 PORT command successful.
150 Opening data connection for /bin/ls.
total 1464
drwxr-sr-x   3 amrood    group        1024 Mar 11 20:04 Mail
drwxr-sr-x   2 amrood    group        1536 Mar  3 18:07 Misc
drwxr-sr-x   5 amrood    group         512 Dec  7 10:59 OldStuff
drwxr-sr-x   2 amrood    group        1024 Mar 11 15:24 bin
drwxr-sr-x   5 amrood    group        3072 Mar 13 16:10 mpl
-rw-r--r--   1 amrood    group      209671 Mar 15 10:57 myfile.out
drwxr-sr-x   3 amrood    group         512 Jan  5 13:32 public
drwxr-sr-x   3 amrood    group         512 Feb 10 10:17 pvm3
226 Transfer complete.
ftp> cd mpl
250 CWD command successful.
ftp> dir
200 PORT command successful.
150 Opening data connection for /bin/ls.
total 7320
-rw-r--r--   1 amrood    group        1630 Aug  8 1994  dboard.f
-rw-r-----   1 amrood    group        4340 Jul 17 1994  vttest.c
-rwxr-xr-x   1 amrood    group      525574 Feb 15 11:52 wave_shift
-rw-r--r--   1 amrood    group        1648 Aug  5 1994  wide.list
-rwxr-xr-x   1 amrood    group        4019 Feb 14 16:26 fix.c
226 Transfer complete.
ftp> get wave_shift
200 PORT command successful.
150 Opening data connection for wave_shift (525574 bytes).
226 Transfer complete.
528454 bytes received in 1.296 seconds (398.1 Kbytes/s)
ftp> quit
221 Goodbye.
$
```

The telnet Utility:

Many times you would be in need to connect to a remote Unix machine and work on that machine remotely. Telnet is a utility that allows a computer user at one site to make a connection, login and then conduct work on a computer at another site.

Once you are login using telnet, you can perform all the activities on your remotely connect machine. Here is example telnet session:

```
C:>telnet amrood.com
Trying...
Connected to amrood.com.
Escape character is '^]'.

login: amrood
amrood's Password:
*****************************************************
*                                                   *
*                                                   *
*      WELCOME TO AMROOD.COM                        *
*                                                   *
*                                                   *
*****************************************************

Last unsuccessful login: Fri Mar  3 12:01:09 IST 2009
Last login: Wed Mar  8 18:33:27 IST 2009 on pts/10

   {  do your work }

$ logout
Connection closed.
```

```
C:>
```

The finger Utility:

The finger command displays information about users on a given host. The host can be either local or remote.

Finger may be disabled on other systems for security reasons.

Following are the simple syntax to use finger command:

Check all the logged in users on local machine as follows:

```
$ finger
Login       Name        Tty      Idle  Login Time   Office
amrood                  pts/0          Jun 25 08:03 (62.61.164.115)
```

Get information about a specific user available on local machine:

```
$ finger amrood
Login: amrood                           Name: (null)
Directory: /home/amrood                 Shell: /bin/bash
On since Thu Jun 25 08:03 (MST) on pts/0 from 62.61.164.115
No mail.
No Plan.
```

Check all the logged in users on remote machine as follows:

```
$ finger @avtar.com
Login       Name        Tty      Idle  Login Time   Office
amrood                  pts/0          Jun 25 08:03 (62.61.164.115)
```

Get information about a specific user available on remote machine:

```
$ finger amrood@avtar.com
Login: amrood                           Name: (null)
Directory: /home/amrood                 Shell: /bin/bash
On since Thu Jun 25 08:03 (MST) on pts/0 from 62.61.164.115
No mail.
No Plan.
```